

REMARKS

In the specification, the paragraph corresponding to paragraph [0029] in the published application has been amended to set out the coplanar relationship of the longitudinal axes of the large and small tows. The paragraph corresponding to paragraph [0035] in the published application has been amended to correct minor editorial problems.

Applicant has amended Fig. 1 of the drawing to more clearly point out features of the invention. The features in question are part of the original disclosure, and no new matter has been added. Replacement sheets showing the changes in red color are being supplied with this amendment.

Claims 1-30 are pending. Claims 29 and 30 are new. Favorable reconsideration of the claims is respectfully requested in light of the following remarks. Applicant requests withdrawal of the outstanding rejection, and allowance of the claims.

Independent claims 1 and 15 now recite embodiments where the axes of the first tows and the axes of the second tows are in a coplanar relationship. No new matter has been added and support for such amendment is found in the Figures and in the specification.

The dependent method claims 16-18, 21 and 24-28 have been amended to correct minor typographical errors so that they now depend from the independent method claim 15.

New claims 29 and 30 depend from claims 1 and 15, respectively, and recite an embodiment where the first tows are intermittently spaced between the second tows. Support for these claims is found in the specification at paragraph [0030] and in the Figures.

In the Office Action the Examiner rejected claims 1-28 under 35 U.S.C. §103(a) over the Bompard et al. U.S. Patent No. 5,484,642 in view of the Vane U.S. Patent No. 5,445,693.

Applicant contends that all the claims are patentable over the Bompard and Vane references and requests withdrawal of the rejection under 35 U.S.C. §103(a).

The Bompard '642 reference shows a woven laminate consisting of several layers of two-dimensional plain weave fabric that have been impregnated with a

resin system. Fig. 5, relied on by the Examiner, is discussed in Bompard, at column 6, lines 38-44, and clearly shows that:

“...unit threads are placed in a stack of conventional fabrics. The material shown comprises two layers 41, 42 consisting of traditional fabrics respectively comprising interlaced threads 41a, 41b, and 42a, 42b...unit threads 43 are arranged between the fabrics 41, 42...” [Emphasis added].

The Bompard fabric shown in Fig. 5 does not have fibers arranged with longitudinal axes aligned in a common plane. Attached hereto is a marked-up copy of the Bompard Fig. 5 showing the non-axial relationship of the fibers. Because of the non-axial configuration, all of the fibers contained in the Bompard fabric end up being subject to being crimped.

The MPEP, at § 2143.01, states that “[I]t is well-established that, in determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification.” *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

The MPEP, at § 2143.03, also states that “[T]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)."

There is nothing in the Bompard reference that teaches or suggests that the axes of the tows 4 and 6 are coplanar. Rather, the Bompard Figure 5 clearly teaches away from the present invention by showing traditional fabrics with non-aligned fibers.

Attached to this amendment is marked-up copy of the Bompard Figure 5 showing the non-coplanar alignment of the first tows 43 and the second tows. A comparison between the Bompard Figure 5 and the Figures in the instant application clearly shows the differences in the alignment of the tows in the

different fabrics. Therefore, for at least this reason, independent claims 1 and 15 are patentable over the Bompard reference.

There is no motivation to modify the Bompard reference with the same size fibers of the Vane reference to meet the invention recited in claims 1-30. The Vane reference shows yarns or tows having the same denier (fiber diameter).

There is nothing in the Vane reference that would give the artisan any reason to change the diameter of some of the fibers to have a yield (i.e., greater diameter) greater than a second set of tows.

Accordingly, Applicant requests withdrawal of the rejection under 35 U.S.C. §103(a).

Claims 2-14 and 16-30 are dependent claims and are allowable over the Bompard and Vane references for at least the reasons set forth above.

Another reason claim 3 is further patentably distinct is that neither the Bompard nor Vane reference suggests a "crimp-free" fabric. The "crimp-free" feature of claim 3 provides much more than a "mere change in the size of the component", as asserted by the Examiner. In the present invention, it is the variation in the coplanar-aligned axes of the rows and the alternating of the different-sized rows which helps provide the novel, "non-crimping" feature to the fabric. The present fabric can be described as a "corrugated" fabric which is more likely to be crimp free as a result of spacing small tows 6 between large tows 4, as clearly stated in paragraph [0034]. The corrugated, or wavy and uneven, surface of the fabric provides the channels in the fabric.

Therefore, claim 3 is also separately patentable over the Bompard and Vane references. Accordingly, Applicant requests withdrawal of the rejection of the claims under 35 U.S.C. §103.

New claims 29 and 30 depend from claims 1 and 15, respectively, and recite an embodiment where the first tows are intermittently spaced between the second tows. The new claims 29 and 30 are also patently distinct and present no further requirement for additional searching. Therefore, entry and allowance of these claims is respectfully requested.

In view of the above amendments to the claims and the remarks herein, the specification, drawings and claims are in proper form. The invention, as defined

in the claims, is neither disclosed nor suggested by the references of record.  
Accordingly, Applicant respectfully requests reconsideration and withdrawal of  
the rejection of record, and allowance of all claims.